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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,319	09/11/2003	Albert-Jan Brouwer		3796

7590  
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NETHERLANDS

03/28/2007

EXAMINER
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LE, BRIAN Q

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/659,319

Applicant(s)

BROUWER, ALBERT-JAN

Examiner

Brian Q. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed-in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

***Claim Objections***

1. Claim 1 is objected to because these claims are very difficult to understand due to the use of confusing language. Also, the term "optimisation" on line 2 is misspelled. Appropriate correction is required. The prior art rejection based on the Examiner's best understanding.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Besl et al. US Pub. No. 2003/0038798 and further in view of Sawhney et al. U.S. 6,985,620.

Regarding claim 1, Besl teaches a method of decoupling 3D scene model parameters so as to allow their largely independent optimization (The process of rendering 2D images from 3D images) (abstract and FIG. 1, "Delivered 3D Data", "Render", and "2D Graphic Image") comprising:

The propagation of model element identifiers from the model (Modeling operation to set geometric primitives) (page 1, column 1, [0002]), via the rendering pipeline (page 1, column 1, [0002]), to render buffers (page 4, column 2, first 5 lines);

The partitioning (the process of slicing/rendering 2D image from 3D image) (FIG. 2) of render buffers in terms of 2D frame plane subsets (page 1, column 1, [0002]; and page 23, column 1, [0360]) so as to allow for a localized match (photogrammetric matching) (page 5, column 2, [0049];

An efficient means (simpler processing is efficient) (page 3, column 2, [0025] of performing such partitioning (page 3, column 1, [0019]);

Best does not explicitly teach the parceling up of model element identifiers with localized match results for propagation to refinement stage; the selective adjustment of model parameters based on match results by virtue of the included identifiers; and the aggregation of match results per model parameter before making said adjustments. Sawhney teaches a method of processing 3D image scene (abstract) wherein discloses a concept of parceling up of model element identifiers (generation of match features and model features) (FIG. 4, element 408) with localized match results (measurements of matching between image features) (FIG. 4, element 410) for propagation to refinement stage (The process of optimization, refine and update the pose estimate based on matching result) (FIG. 4, element 412 column 6, lines 60-63; and column 7, lines 33-35); the selective adjustment of model parameters based on match results by virtue of the included identifiers (FIG. 4, elements 408, 410, and 412); and the aggregation of match results (increase pose estimation accuracy) (column 5, lines 65-67) per model parameter before

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making said adjustments (before update) (FIG. 5). Modifying Besl's method of processing 3D image according to Sawhney would be able to parceling up of model element identifiers, adjusting model parameter based on match results. This would improve processing because it would reduce matching errors (column 2, lines 45-46 and column 5, lines 65-67) and therefore, it would have been obvious to one of the ordinary skill in the art to modify Besl according to Sawhney.

### ***CONCLUSION***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to 3D and 2D image scene processing:

U.S. Pat. No. 6,456,287 to Kamen et al., teaches method and apparatus for 3D Model creation based on 2D mages.

U.S. Pub. No. 2002/0060679 to Malzbender et al., teaches method of rendering 3D objects with parametric texture maps.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian Le  
March 24, 2007